**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-29 (Canceled).

30. (Original) In a MODU jacking system comprising a MODU platform, a plurality of MODU supporting legs, and means including a plurality of driving toothed members and a plurality of driven toothed members on the plurality of MODU supporting legs, for providing relative motion between the MODU platform and the plurality of MODU supporting legs, the improvement wherein the plurality of driving toothed members comprise continuous linear motion motors driving pluralities of teeth having planar engagement surfaces, and said plurality of driven toothed members comprise racks with pluralities of teeth having planar engagement surfaces, the planar engagement surfaces of said continuous linear motion motor, and said rack mating so the stresses resulting from the driving force of said plurality of teeth of said continuous liner motion motor are substantially uniformly distributed on the planar engagement surfaces of the engaged teeth.

31. (Currently Amended) ~~In a MODU~~ A jacking system comprising a ~~MODU~~ mobile, marine-based platform, a plurality of ~~MODU~~ supporting legs for said mobile, marine-based platform and means for providing relative motion between the ~~MODU~~ mobile, marine-based platform and the plurality of ~~MODU~~ supporting legs, ~~the improvement wherein~~ each of said plurality of ~~MODU~~ supporting legs ~~includes a plurality of leg chords, each~~ including a leg chord comprising a ~~tubular~~ column with a toothed rack welded on ~~opposite sides~~ one side of the ~~tubular~~ column, ~~and wherein~~ the means for providing relative motion between the ~~MODU~~ mobile, marine-based platform and the plurality of supporting legs ~~comprises~~ comprising: a plurality of continuous linear motion motors, with at least one continuous linear motion motor being engaged with the toothed ~~racks of each~~ rack of the leg ~~chords~~ chord of each of the ~~MODU~~ supporting legs, each continuous linear motion motor comprising at least three piston/cylinder units, each of the at least three piston/cylinder units having an extendable and retractable piston and a toothed rack engagement member driven by its piston and an engagement/disengagement means for engaging and disengaging the toothed rack engagement member with the toothed rack; and a source of hydraulic pressure for operating the continuous linear motion motors; and

control means for operating said plurality of continuous linear motion motors by operating a portion of the engagement/disengagement means of each of said continuous linear motion motors and engaging a portion of the toothed rack engagement members of each of said continuous linear motion motors with the toothed racks, and operating said engaged portion of said continuous linear motion motors to provide said continuous relative motion while operating at least one of the engagement/disengagement means of each of said continuous linear motion motors and disengaging at least one toothed rack engagement member of each of said continuous linear motion motors and operating the disengaged one of the continuous linear motion motors to reposition the disengaged toothed rack engagement member for re-engagement with the toothed rack and providing said continuous relative motion.

32. (Previously Presented) In a MODU jacking system comprising a MODU platform, a MODU supporting leg, and means including at least one driving toothed member and at least one driven toothed member on the MODU supporting leg, for providing relative motion between the MODU platform and the MODU supporting leg, the improvement wherein the driving toothed member and the driven toothed member comprise teeth having mating planar upper and lower engagement surfaces driven by a continuous linear motion motor.

33. (Original) The improved MODU jacking system of claim 32, wherein the planar upper and lower engagement surfaces are angled.

34. (Original) The improved MODU jacking system of claim 33 wherein the angled upper planar engagement surfaces are angled at an angle $\alpha 1$ and the angled lower planar engagement surfaces are angled at an angle $\alpha 2$, and the angles $\alpha 1$ and $\alpha 2$ are equal.

35. (Original) The improved MODU jacking system of claim 33 wherein the angled upper planar engagement surfaces are angled at an angle $\alpha 1$ and the angled lower planar engagement surfaces are angled at an angle $\alpha 2$, and angle $\alpha 2$ is greater than angle $\alpha 1$.

36. (Original) The improved MODU jacking system of claim 32 wherein the driving toothed member comprises a plurality of teeth mating with a plurality of teeth of the driven toothed member.

37. (Original) The improved MODU jacking system of claim 32 wherein the continuous linear motion motor provides a jack-up mode, a jack-down mode, and a MODU locking mode.

38. (New) The jacking system of claim 31, wherein the mobile, marine-based platform and the supporting legs are locked in a stationary position by said control means by ceasing said continuous relative motion, disengaging a portion of the engaged toothed rack engagement members of said continuous linear motion motors from the toothed rack while maintaining engagement of the remainder of the toothed rack engagement members with the toothed rack, and operating said continuous linear motion motors to reposition said disengaged portion of the toothed rack engagement members, and to re-engage the repositioned toothed rack engagement members with the toothed rack, and repeating the operation with different portions of the toothed rack engagement members and of the continuous linear motion motors until all of the toothed rack engagement members are engaged with the toothed racks and are locked in stationary positions.

39. (New) The jacking system of claim 38 wherein said engagement/disengagement means for each toothed rack engagement member comprises a compression spring urging each toothed rack engagement member into engagement with the toothed rack, and wherein no power is expended in maintaining the mobile, marine-based platform locked in said stationary position.

40. (New) The jacking system of claim 38, wherein said piston/cylinder units of said at least three piston/cylinder units of each of said continuous linear motion motors are pivotally connected at their cylinder ends with the mobile, marine-based platform, said engagement/disengagement means pivoting said piston/cylinder units during their operation; each of said toothed racks having a plurality of teeth with angled planar engagement surfaces, and said toothed rack engagement members having a plurality of teeth with mating angled planar engagement surfaces; said plurality of angled planar engagement surfaces of said toothed racks and of said toothed rack engagement members generating in their engagement, forces resisting the disengagement of the toothed rack engagement members.

41. (New) The jacking system of claim 31, wherein said at least three piston/cylinder units of each continuous linear motion motor comprises N units, where N is three or more, and wherein operation of the pistons of said N units is phased so that at most

N-1 units are engaged with and providing relative motion at all times during jacking operations while at least one of said N units is disengaged from the toothed rack and is being retracted.

42. (New) The jacking system of claim 31, wherein the engagement/disengagement means comprise compression springs acting to urge the toothed rack engagement members generally horizontally into engagement with the toothed racks, and unclamping piston/cylinder units operable by hydraulic pressure to pull and disengage the toothed rack engagement members from the toothed racks.

43. (New) A jacking system for providing offshore support of a marine-based platform, comprising

a platform,

a plurality of legs for supporting the platform offshore, each of said plurality of legs including a toothed rack;

a plurality of continuous linear motion motors, at least one continuous linear motion motor for each leg, each of said plurality of continuous linear motion motors driving toothed rack engagement means engageable with a toothed rack of one of the plurality of legs, each of said plurality of continuous linear motion motors comprising at least three hydraulic piston/cylinder units, with a toothed rack engagement member driven by each of the at least three hydraulic piston/cylinder units and an engagement/disengagement means for engaging and disengaging each toothed rack engagement member with a toothed rack,

a source of hydraulic pressure for driving the continuous linear motion motors, and

control means for operating the continuous linear motion motors by operating a portion of the engagement/disengagement means and engaging a portion of the toothed rack engagement members of a portion of the at least three piston/cylinder units of each of the continuous linear motion motors with the toothed racks, and operating said engaged portion of the at least three piston/cylinder units of each of the continuous linear motion motors to provide continuous relative motion between said platform and said plurality of legs while operating one of the at least three engagement/disengagement means and disengaging the toothed rack engagement member of one of the at least three piston/cylinder units of each of the continuous linear motion motors from a toothed rack and operating the disengaged one of the at least three piston/cylinder units of each of the continuous linear motion motors to

reposition the disengaged toothed rack engagement member for re-engagement with the toothed rack and providing said continuous relative motion.

44. (New) The jacking system of claim 43 wherein said plurality of piston/cylinder units are pivotally attached with and carried by the platform so their central axes are pivoted through a small angle for engagement and disengagement of their toothed rack engagement members with said toothed racks, and wherein the toothed racks comprise a plurality of teeth with substantially planar engagement surfaces, and the toothed rack engagement members comprise a plurality of teeth with substantially mating planar engagement surfaces.

45. (New) The jacking system of claim 44, wherein said plurality of engaged angled planar engagement surfaces of said toothed rack engagement members and said toothed rack generate, in their engagement, forces resisting disengagement of the toothed rack engagement members from the toothed racks.

46. (New) The jacking system of claim 44 wherein said plurality of engaged angled planar engagement surfaces of said toothed rack engagement members and said toothed rack generate, in their engagement, forces assisting disengagement of the toothed rack engagement members from the toothed rack.

47. (New) The jacking system of claim 43 wherein said control means operates said piston/cylinder units and said engagement/disengagement members to provide a jack up cycle, a jack down cycle, and a position locking cycle.

48. (New) The jacking system of claim 47 wherein, upon receiving an operator input to move from the position locking mode to one of the jack up and jack down modes, said control automatically operates said engagement/disengagement means and said piston/cylinder units of each of said continuous linear motion motors to provide a sequential disengagement and positioning of portions of the toothed rack engagement members of portions of the piston/cylinder units for phased operation to provide said relative motion.

49. (New) The jacking system of claim 43 wherein at least one of the continuous linear motion motors is carried by the platform with a load sensor, whose output is monitored by the control and provides indicia of the load conditions and a warning of unacceptable load conditions.